

White Paper: Methodologies of open co-creation around digital culture

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Introduction

In recent times, we have witnessed a growing interest in the use of diverse practices in co-creation. These are understood as processes of participative design taking place in a variety of cultural and economic fields. The discipline has its roots in the participative design as established in Northern Europe since the 1970s¹. Through using different principles, methods and solutions, it originated from the necessity of placing the user or client at the centre of the value creation process as a practical and active source of knowledge, motivation and creation. Whether through workshops, in-person sessions or online collaboration dynamics, co-creation can be understood as a way to activate and channel creative processes, especially as a tool which increasingly enables the collaborative identification and generation of products, services, and even learning dynamics or project incubation.

Concretely, in the fields of digital culture and social innovation, co-creation is an ever-more prevalent mechanism. It affords new, innovative and positive dynamics in the development and participation of different agents and stakeholders in new projects. Examples in the fields of culture and technology include free software, Wikipedia or even institutions that safeguard cultural heritage, such as museums and galleries.

As a result, this text aims to present, define and suggest concrete co-creation concepts and practices in the techno-cultural field, specifically in relation to open content, digitalized heritage, the GLAM² concept and specific cases recently surfacing in the Europeana³ environment around its role as a digital platform and network catalysing change in the world of cultural heritage.

After a brief review of the origins and significance of several relevant co-creation experiences in addition to the principal concepts and ideas that sustain this developing phenomenon, we will tackle the application of examples and concrete methodologies for co-creation workshops in social and cultural contexts. We will also treat its relationship with other complementary processes and perspectives, such as open cultural content, technological entrepreneurship and Agile project development within the Scrum framework.

¹ On the evolution of participative design in Europe and the USA, see Sanders, Stappers, 2008

² For more information: http://en.wikipedia.org/wiki/GLAM_%28industry_sector%29

³ For more information: <http://www.europeana.eu/>

Co-creation: Main Concepts

Aside from concrete influences and dynamics derived from the art world, particularly from what's considered the vanguard, the development of the concept of co-creation as a technical discipline and specific conceptual framework has its origins within transformative processes in the entrepreneurial world aimed at generating new products and services, where companies and brands⁴ have been implementing co-design and innovation strategies for more than a decade. Due to emergent trends in communication and collaboration enabled by new technologies, connectivity and globalization (Prahalad, Ramaswamy, 2004), the evolution from passive, recipient consumers to prosumers⁵ has stimulated the competitive necessity of many companies and institutions to search for more efficient ways to innovate their offerings, treating this prosumer as an active subject central to the design of new projects.

As well as leading to new challenges in the internal management of teams and resources within big companies and brands, both to carry out effective collaborative creation actions involving users, products and services and to face structural changes, the initial results of these co-creation practices have been their extrapolation to fields significantly removed from the market logic of competition and innovation. These co-creation experiences have been replicated in areas such as education, the arts, and the publishing and audiovisual sectors⁶.

In many cases, these spaces of co-creation function at the experimental level. As we will see in the following section, the deployment of co-creation practices is complemented by a combination of parallel concepts, such as user-centered design⁷, design thinking⁸, or participative design⁹. These are equally valid paradigms which fall within the scope of this article, and they serve to describe the different co-creation techniques carried out by Platoniq¹⁰ within the context of the Europeana Creative¹¹ project.

⁴ On business strategy, value production and co-creation, see Sanders, Simons, 2009

⁵ For more information: <https://en.wikipedia.org/wiki/Prosumer>

⁶ For more detail about the relation between cultural dynamics and creative economy, see Potts, Hartley, Banks, Burgess, Cobcroft, Cunningham & Montgomery 2008

⁷ For more information: https://en.wikipedia.org/wiki/User-centered_design

⁸ For more information: https://en.wikipedia.org/wiki/Design_thinking

⁹ For more information: https://en.wikipedia.org/wiki/Participatory_design

¹⁰ For more information: <http://youcoop.org/>

¹¹ On projects related to application creation and proofs of concept in the reuse of European digitalized cultural heritage on the part of creative industries, see: <http://pro.europeana.eu/web/europeana-creative>



Starting an eCreative co-creation workshop in Aalto Media Lab, Helsinki

In this sense, we should establish an introductory explanation of key concepts in order to understand how co-creation relates with other general participative and design principles before describing its application in different fields. On the one hand, co-creation refers to one of the hallmark elements of design thinking (Plattner, Meinel, Leifer, 2012), as an effective method to imagine, select and execute solutions to problems or opportunities in differing contexts. As a technique, on the other hand, it requires the adoption of user centered design¹² in many of its applications. This is to say, to focus a significant part of the co-creation process in identifying and shaping a consensual conceptualization of who, individually or collectively, will be recipients or participants of any specific, collectively-developed design or solution, a fundamental aspect in fields such as usability¹³.

Presently, different approaches to co-creation techniques and events are being deployed in fields such as social entrepreneurship (for the identification of services and products of interests in those areas considered non-relevant to the market¹⁴) and app design and web development (co-defining needs, requirements and interface development based on a shared vision, led by user demand and their expressed needs)¹⁵. Normally, these imply low-tech methodologies (such as prototypes or wireframes on paper). Rather than involving experts, participation is centered in relevant viewpoints informed by necessity or daily activity. The implicit knowledge of participants is made explicit through guided discussions and feedback rounds while, and in many cases, basic, low cost materials and diversely sourced contents are used or reused.

¹² For more information: https://en.wikipedia.org/wiki/User-centered_design

¹³ For more information: <https://en.wikipedia.org/wiki/Usability>

¹⁴ For more information: <http://www.forbes.com/sites/ashoka/2014/02/04/why-co-creation-is-the-future-for-all-of-us/>

¹⁵ On innovative practices see Russo- Spena, Mele, (2012)

Co-creation and co-design in the field of culture

Despite an increase in the analysis and documentation of different co-creation experiences in the creative industries, and in different contexts such as tourism (Binkhorst, Den Dekker, 2009), A/V production (Russo, Watkins, 2005) or education (Kangas, 2010), the most detailed and revealing examples pertaining to this set of practices are to be found in the museum sector. Within this particular sector, and in reference to the evolution of the spectator's own perception, from passive (McLean 1989) to active participation, Nina Simon (2011) author of *The Participatory Museum*, highlights the three main reasons behind the development of co-creation projects within certain cultural institutions. The first is to give voice to, and answer, the necessities and interests of local communities; secondly, to facilitate new spaces for dialogue and participation; and, finally, to help participants develop skills and knowledge relevant to their own personal or professional objectives. This set of necessities represents a paradigm shift in the function of cultural institutions which, rather than being solely based in exhibitions and collections, begin centering on the visitor as a participative user. This also implies a new-found sense of responsibility and social implications around their legacy and public function (Anderson, 2004).

A close analysis of the program and the results of the 2014 edition of the Museum Next¹⁶ conference — a leading event showcasing the type of innovation and new opportunities influencing digital trends in museums and heritage institutions — reveals important examples and experiences in the field of co-creation. Among other key aspects stemming from recent research, the Museum Next event examined possible user-focused strategies and principles for digital production: websites, apps, manuals, etc., and through the use of design techniques favoring the user's active involvement (Bofill 2014). Among other subjects discussed were the possible role of collaboratively generated paper prototypes in design initiatives; the needed requirements for creating mobile applications related to exhibited content¹⁷; and how design thinking and active interaction with visitors influences the selection of new content, services and products. All of the above can be key elements in reimagining institutions and generating new values¹⁸ (as in the case in Rijksmuseum's¹⁹ Media Lab, Amsterdam).

Whether in regular projects and activities or in more experimental contexts, co-creation in the cultural sector is mirrored in other fields such as product design or software development as part of a transversal inter-discipline which fosters the involvement of, and integrates experts

¹⁶ For more information: http://www.museumnext.com/museum_conference_history/museumnext-2014-museum-conference/

¹⁷ For more information: <http://www.cogapp.com/blog/prototyping-mobile-development-options-tools-and-techniques>

¹⁸ For more information: <http://designthinkingformuseums.net/2014/07/02/museum-next-five-takeaways/>

¹⁹ For more information: <http://designthinkingformuseums.net/2014/09/25/design-thinking-at-rijksmuseum/>

with, persons from different backgrounds in common work projects (Moura, H.; Cardador, D.; Vega, K.; Ugulino, W.; Barbato, M.; Fuks, H, 2011). Within these contexts, rapid prototyping and the collective visualization of ideas and opportunities — when properly facilitated — often trigger creation or even collective production, furthering the evolution of new interaction typologies arisen in parallel to what's known as Web 2.0 and participative events such as *barcamps*, *unconferences* or similar formats, which traditionally were primarily centred in the dynamic exchange of ideas and experiences (Senabre, 2009).

All of the above, together with the indispensable, direct involvement of the participants, and along with complementary (or even divergent) points of view, ideally will serve to foster empathy and positive, creative activity as the fundamental features of the whole process. As such, any co-creative processes developed in museums can be open to the participation of professionals and nonprofessionals who are collaboratively responsible for the final form these may take (Govier, 2008). In this context, where those visiting exhibits increasingly expect intuitive and well-designed experiences, services and products, trends like these represent an important opportunity to introduce user-centered design methodologies in the field of cultural practices, allowing for a qualitatively superior identification of and response to potential user²⁰ needs.

²⁰ On *visitor engagement* strategies see: Mitroff Silvers, Wilson, Rogers, 2013

Co-creation workshops in Europeana Creative

In most cases, the evolving context described above alludes to the idea of the prototype as a final product, which could be physical objects or services, experiences, spaces or interactions within the scope of culture. At this point a concrete question arises: what happens when these contexts of collaborative creation are based in pre-existing and openly accessible contents, products and dynamics? Most of all, when the entire process can be inclusive, transparent and reusable? In areas such as social innovation and digitalized cultural heritage, these questions lead directly to the opportunity, even the necessity, of producing commons²¹ under copyleft licenses²² or other types of guarantees to ensure that the content can be distributed. After a process of societal reappropriation, these same results can serve as a starting point for other developments and services such as education and creative services, or interact with new paradigms, such as the collaborative economy²³ and collaborative consumption²⁴. One of the most frequent challenges and opportunities encountered by NGOs, civil associations and the third sector (plus cultural industries, local governments or even emerging enterprises and diverse types of social entrepreneurs) when trying to generate value and sustainable solutions, digital applications, innovative services and cultural goods, etc. (including for-profit and non-profit structures) is to consider the inclusion of digital materials which are both suitable and authorized for possible reuse. Within this context, co-creation can be even more pertinent and powerful, as it implies the iterative construction and the construction of knowledge and experience, leading to additional processes in mutual learning between participants (Payne, Storbacka, & Frow, 2008).

Co-creation workshop

These aspects converged in 2013 with the organization of the eCreative²⁵ project, a collaboration between leading international institutions such as Europeana, Kenninsland, Aalto University, the British Library and the European Network of Living Labs, among others²⁶. eCreative aimed to promote an increased re-utilization of cultural heritage resources by European creative industries. This led to a close working dynamic with interest groups, developers, potential users of their resulting products and content providing institutions, including those responsible for the planning and facilitation of different co-creation workshops

²¹ For more information: https://en.wikipedia.org/wiki/Common_good_%28economics%29

²² For more information: <http://en.wikipedia.org/wiki/Copyleft>

²³ For more information: http://en.wikipedia.org/wiki/Sharing_economy

²⁴ For more information: http://en.wikipedia.org/wiki/Sharing_economy

²⁵ For more information: <http://pro.europeana.eu/web/europeana-creative/>

²⁶ http://www.google.com/url?q=http%3A%2F%2Fpro.europeana.eu%2Fweb%2Feuropeana-creative%2Fpartners&sa=D&sntz=1&usq=AFQjCNFWo49h_EjdDJS_tYNCGfKxKyDw_Q

held to develop and create new applications and digital products²⁷ showcasing the potential of digital content when reused for new products and services. Different techniques and principles derived from creative thought, rapid prototyping²⁸ and agile development²⁹ were applied in fields such as tourism, education, design and social networks in a series of workshops where both their evolution and the overall results were examined. At the same time, the outcomes of a methodology understood as a work in progress dedicated to finding a balance between its open character and the dissemination of valuable knowledge were also shared.

These participative design techniques stem from a hybrid condition based on ambiguous or uncertain circumstances, they are not part of daily experience nor the domains of designers or users (Muller, 2003). Instead, they use the immense cultural archive that has been digitalized by cultural institutions throughout Europe as a starting point to articulate innovations in the field of culture. These creative re-utilisations are meant to tie in with social networks, data APIs or mashups of Web services and techniques which, at the same time, can generate sustainable and viable services based on the interest of user communities.



Starting presentations at eCreative co-creation workshop in The Hague

A key aspect to the success of these dynamics, as previously expressed by Simon³⁰, includes two fundamental principles. First, that partners and participants respect everyone's interests and objectives from within a context of common guidelines defining what is acceptable and

²⁷ For more information: <http://pro.europeana.eu/web/europeana-creative/pilots-and-challenges>

²⁸ For more information: https://en.wikipedia.org/wiki/Rapid_prototyping

²⁹ For more information: https://en.wikipedia.org/wiki/Agile_software_development

³⁰ For more information: <http://www.participatorymuseum.org/chapter8/>

expected for the duration of the co-creation process. Second, doing away with preconceived ideas about the results of the project while allowing for a predisposition to letting it develop in whichever direction would create the most value for participants, but always within the pre-established guidelines. To achieve this, careful planning was undertaken in relation to the dynamics and the steps taking place between activities, seeking a careful balance between structure and flexibility.

Co-creation workshop examples

As a result, we have seen the development of a variety of digital projects, from a memory game for children involving virtual cards representing contents with fossil samples and butterflies from real collections³¹, to entertaining desktop and mobile applications designed to recreate pictorial works from different museums³², in an entertaining way. Other co-created developments included a graphic adventure for tablets, an interactive map to aggregate and enhance sound samples of birds or urban landscapes³³, an e-learning activity kit for history teachers based on digitalized sources³⁴, and an app for combining user-created photography with design patterns and existing creations from all types of collections to inspire the creativity of different types of users³⁵.

Following, in a detailed and practical approximation, this paper will itemize the chronological methodology employed in the co-creation process using the format of a long-term workshop. These include different co-creation workshops that took place between 2013 and 2014 in locations such as the National Museum in Prague³⁶, Czech Republic; European Association of History Educators (EUROCLIO)³⁷ in The Hague, Netherlands; Es Baluard Museum³⁸ in Palma de Mallorca, Spain; El Centre Mondial de la Paix³⁹ in Verdun, France; the Théâtre du Manège⁴⁰ in Mons, Belgium; and Media Lab Helsinki at the University of Aalto, Finland⁴¹.

³¹ For more information: <https://github.com/semantikaeu/memorymatch/>

³² For more information: <http://vangoyourself.com/>

³³ For more information: <https://www.historypin.org/en/explore/sound-connections/>

³⁴ For more information: <http://la.historiana.eu/la/>

³⁵ For more information: http://spildaftid.dk/designpilot/culturecam_beta/

³⁶ <http://www.nm.cz>

³⁷ <http://www.euroclio.eu>

³⁸ <http://www.esbaluard.org/es/>

³⁹ <http://cmpaix.eu/fr/>

⁴⁰ <http://www.lemanege.com>

⁴¹ <http://www.aalto.fi/en/>

Accreditation and participants

One of the first criteria to consider when organizing these sessions is the best way to make participants feel correctly identified and situated, while also breaking the ice to achieve a friendly atmosphere, conducive to teamwork. A first step in achieving this would be to take advantage of the accreditation process. This is usually a very good opportunity, not only for identifying who will finally take part in the workshop but also to allow people to identify themselves providing more than just their names, Twitter IDs, or the organization where they work. For example, making them choose one of the roles available in the form of a sticker, ideally accompanied by an image, to metaphorically or explicitly allude to some professional role or department: programmer, designer, creative, educator, communicator, etc., in line with the call and the theme of the proposed project.

This simple method of identifying different abilities, interests and spatial formations — preceded by an invitation during the workshop campaign and, naturally, adapted to the concrete context of the desired co-creation process — apart from being socially constructive, can be decisive in ensuring a healthy mixture of people with different backgrounds and abilities in the various work groups during the workshop.



Some avatars used for accreditations

Context and shared indicators

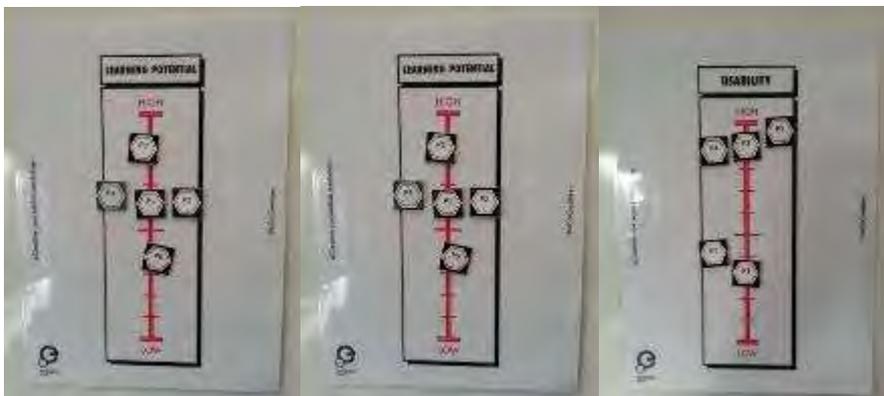
As noted earlier, everything is centered around group work and, specifically, its iteration through the establishment of small operative units of people, enabling the latter to debate, create together and, finally, share their results through collective decision-making. Following this, it is expedient to set up new groups to continue with the co-creation process in a reiterative and incremental manner. To achieve this, all behavioral or adaptation guidelines related to the space should as minimal as they are definite. It is, for example, good practice to encourage participants to adapt to certain principles from open space technology, such as the potential of the participants and moment to moment opportunities⁴².

⁴² For more information: http://en.wikipedia.org/wiki/Open_Space_Technology

Key indicators

Prior to the construction and development of co-creative processes, in most cases it is also necessary to establish solid foundations by contextualising examples or problems related to those predetermined areas where the results of the co-creation process are meant to have an impact.

To set about achieving this, its participants must provide — ideally through the use of a tablet or smartphone — an example or a representative case of what they consider to be good practices (apps, sites, services, content, etc). Working in pairs, they will also compare the different samples of this informal benchmarking. After selecting one of various examples, participants are encouraged to share their reasoning behind choosing specific applications with the rest of the team by using different types of "thermometers" to measure selection levels (based on indicators such as innovation, usability, perceived ease of development, etc). In addition, this normally helps establish a certain common criteria allowing for eventual group decision and selection dynamics in other parts of the process.



Some examples of indicators used for benchmarking and discussing existing apps

If additional context is needed prior to the co-creation process, another optimal, complementary way of generating further knowledge and inspiration related to the objectives of each session is by holding brief discussions, following the suggested guidelines and timeframe of what are called "lightning talks"⁴³. These, from the start, allow for the sharing of examples (not just concepts) of transversal aspects such as concrete contents, licenses, data or open access content, innovative solutions, etc., thus helping avoid the exclusion of any participants who may not be knowledgeable about certain key aspects. At the same time, incursions that are more concrete in theme or objective are encouraged to help motivate and orient the participants.

⁴³ For more information: http://en.wikipedia.org/wiki/Lightning_talk

Generating Scenarios

The scenario is the fundamental launchpad for this type of co-creation dynamic. It represents the synthetic expression of a previously covered necessity or interaction which can additionally serve as a starting point to articulate the details of what must be developed to achieve such an end. In order to create, share, debate and even fuse new scenarios, we need these to incorporate a certain structure, ensuring their constitution as proactive elements inclusive of aspects that are both comprehensible and common to all concerned. In order to achieve this, participants must be invited to express scenarios that they feel or imagine to be useful, describing them through a sentence divided in four segments which are recreated with four differently coloured post-its, each representing a different element of the phrase. With similar connotations to what is known as user stories⁴⁴ (as employed by software developers in the creation of programs), these scenarios always start with a simple common phrase based on the following proposition: “What would happen if [as a user]”. This phrase is then complemented with an initial, concrete reference to the type of person or archetype which reflects the key active users of the conceived application, product or service, or whoever would benefit from it.



Different scenarios at workshops in The Hague (Euroclio) and Prague (Národní muzeum)

In the second part of the scenario building process individually undertaken by each participant (and prior to sharing it with the rest of the group), participants are asked to define the key aspect of the process: the action. To give an example, this can be phrased as “...if I could [present tense]”, using at least one active verb. Following on from that, it is advisable to add (at most) two additional parts per phrase, sentences that can be generated by anyone imagining the best possible solution for a particular context or field. In most cases an adverbial phrase (“... with ...”) will be used to indicate a tool, technique, function or complement, in a modular way. Finally, the goal of the scenario, its final objective, can be stated in a brief but clear manner (“... In order to [objective]”).

⁴⁴ For more information: https://en.wikipedia.org/wiki/User_story

In spite of its apparent simplicity, a brainstorming system based on this scenario-configuring, short phrase-based model usually yields a wide diversity of combinations. The logic behind describing the scenarios through the use of differently coloured post-its is to implement a modular structure that facilitates their recombination (for example, the same objectives or key uses can be identified in different scenarios) and to improve dialogue on the results prior to the filtration and prototype selection process. Scenarios can even be fused or combined among themselves to arrive at new and interesting arrangements.

Some examples of scenarios used during different eCreative co-creation workshops:

Tourism theme

- What would happen if a business traveller could obtain information on how to spend his or her free time from other users, illustrated with Europeana content when available?
- What would happen if a visitor could navigate among the images and stories of a location's inhabitants, in order to learn more about its history?
- What would happen if an art lover could take photos recreating historic and classic fine art paintings?



Social Networks theme (re-use of sound archives)

- Sounds of nature: What would happen if a child could record the sounds of nature in order to identify them, then compare them to Europeana content?
- Industrial Age: What would happen if a trainspotter could add geo-located information tags to ordinary train sounds in order to share information and contribute to a debate on the subject?
- Soundscapes: What would happen if an early music lover could find the original sounds of old instruments and their histories on the Internet, as well as related images and recordings?
- Street culture: What would happen if a tourist could upload or download historical recordings from the Internet, or choose amongst them on an interactive platform in order to construct his/her own tourist itinerary at any given location?



History education theme:

- Multi-perspective: What would happen if a student was tasked with looking at old newspapers and comparing different versions of the same news from different sources?
- Similarities and differences: What would happen if I could send a postcard chosen from a selection of historically accurate postcards to an ancestor or family member, explaining something about my current life in order to emotionally understand cultural and technological differences?
- Critical analysis of sources: What would happen if I could read and contextualise correspondence between Vincent and Theo van Gogh with characters, images, sounds, video and geo-located data in order to understand the relationship between the space-time dimensions and the works of art?
- Historical thinking: What would happen if I could follow historical figures on Twitter, with their biography formatted as posts including content sourced from documents, postcards and newspapers and without knowing how their story would end, in order to feel the suspense and incertitude of the history of thought?
- Innovative narratives: What would happen if I could create a genealogical tree, using portraits of monarchs and adding contextual information of those represented in order to understand the interconnections of European Society?



Natural History education:

- Crab and insect puzzle: What would happen if a student could, by playing a puzzle, compare insects or crabs with extinct species from the Europeana archive in order to learn the functional anatomy of extinct insects?
- “Species-saving” card game: What would happen if I could play cards featuring animals or fossils and their different metadata in order to learn about the evolution and variety of animal species?
- Fossil search: What would happen if a student (or a group) could explore and share fossils hidden in buildings or the city in order to learn about species and changes over time?
- Geolocated fossiles: What would happen if I could use sound and geolocated maps related to different species of animals in order to describe the history of a specific location?



Design:

- eFab! - Fabbing Europe's heritage one piece at a time: What if as a Maker I could have an ecosystem to support digital fabrication of Europeana content, a knowledge-sharing platform in which a variety of users can share 3D-print vectors and other such knowledge necessary for the digital fabrication of objects?
- Knitty Gritty: What if as knitter I could share textile patterns found in the Europeana database, supporting (re)fabrication of vintage patterns?
- Media Mole: What if as a media professional I could access a collection of Europeana content organised thematically, so I can collect, showcase and reproduce digitised cultural heritage?
- Open Art: What if as a teacher I could can access Europeana's digitised cultural heritage and offer it to students via an online platform, specifically focusing on reuse of content for storytelling and narrative?



Iteration and decisions

At this stage of the described co-creation methodology, it is important to collectively discuss and select the proposals derived from each work group, in order to finally select only the best candidates from the different scenario clusters. In order to achieve this, session preparation is once again a key aspect, as is a minimum of facilitation and time management in order to allow for collective decision-making. This is done at this stage in order to mark possible scenarios to be developed, always based on those results which participants find most interesting or valuable. Consequently, we will need enough time and space so that each group can present the results that have been created or combined by working with scenarios. A useful technique to achieve this is to begin by proposing an ad hoc classification of the sub-themes or -areas of the main subject. The fact that each scenario will be situated in a different space among the various areas of the board usually helps form new groups or even new combinations between scenarios produced by each group.

Once all scenarios selected by each group have been briefly presented, and after debating these or resolving any questions, the next stage involves the application of a method to select those which will be developed as co-designs. Depending on the number of scenarios (if not too many exist, an adequate number will be chosen) it may be expedient to employ a “qualitative” methodology to carry out such a selection. It involves using the indicators of the first session to create an axis within which two of these indicators will represent positive and negative values.

Examples would be novelty level or practical development, or education, entertainment or business potential, etc. This, in most cases, balances each scenario, placing it in relation to the degree of innovation or viability perceived by participants, prior to any further development. Given the organic quality of this methodology and, in this case, the necessary discussion, any argument in favour of or against any concrete scenario indicators will affect the chosen scenarios' position along the axis. Finally, those awarded the highest scores for innovation and practicality will be chosen to be developed in more detail in the following stage.



Different scenarios voted at workshops in The Hague (Euroclio) and Helsinki (Aalto Medialab)

All in all, the approach described above could require a considerable amount of time and may not be practical if there are many scenarios covering different parts of the board. In such cases, it may be convenient to employ a technique more closely related to participatory principles, known as “dotmocracy”⁴⁵, which can be useful in order to detect which scenarios participants feel connected with, while stimulating their interest. It consists of using a fixed number of adhesive green dots, representing anonymous positive votes, which permit gauging the statistical interest awarded to each scenario at a glance. This allows for general visualization of what is perceived as the most promising scenario, free from the constraints of the previous groups while allowing everyone to offer opinions on all scenarios. Also, it may prove helpful to use red dots, not to indicate which scenarios are disliked or perceived as the least interesting, but to highlight what expert participants in a particular area (development, strategy, design, viability, licensing, etc.) notice about possible obstacles or aspects of a specific scenario which may contribute to its complexity and which, if finally chosen, must be taken into account.

⁴⁵ For more information: <http://en.wikipedia.org/wiki/Dotmocracy>

Rapid prototyping

When the best scenarios have been selected and debated on, and those discarded have been archived (after being photographed or listed for their eventual use as documentation), many of the participants will already be somewhat interested in several of the possibilities described. This is the time to form new reduced groups, inviting participants to join whatever scenario they feel they can best contribute to, and with the main objective of creating something more visually concrete. The first step involves determining, in as much detail as possible, the type of users that each scenario applies to. This is normally carried out through templates or cards, with illustrations depicting different ages, genders, aspects, etc. There is also space for additional information on participants' ideas about the main recipient of the project, service or process, including his or her tastes, knowledge or habits. There are many reasons underscoring the importance of imagining these archetypes, as they form the nucleus of the co-creation process in defining the necessities, deficiencies and limitations of the product, service or process as defined by user-centered design paradigms⁴⁶.



Different scenarios voted at workshops in Prague (Národní muzeum) and The Hague (Euroclio)

Actions and scenarios

Once the scenarios are somewhat more defined, thanks to those visual cues, the next step involves the collaborative building of a diagram or blueprint concretely detailing the profiles of the different users imagined for each selected scenario. When digitalized content becomes a more important aspect (through apps, digital platforms or other knowledge oriented spheres such as archives accessible through Europeana⁴⁷ or other types of user generated content⁴⁸), it will be useful to have pre-prepared visual cards including images, texts, QR codes,

⁴⁶ For more information: https://en.wikipedia.org/wiki/User-centered_design

⁴⁷ For more information: <http://www.europeana.eu>

⁴⁸ For more information: http://en.wikipedia.org/wiki/User-generated_content

multimedia archives, etc. Through the use of techniques such as collage, schematic drawings, idea maps or process-oriented flowcharts, this part of the methodology focuses on the creation of consensual visual explanations for relationships and actions derived from each scenario. Depending on the interest and expertise of the participants — and whatever materials they have on the table — they will sometimes use coloured pencils or markers and generally make use of diverse techniques to best describe whichever product or service they have envisioned. In order to unleash creativity and brainstorming, this manual, tangible activity will be facilitated to both optimise time management and supervise the evolution of the work groups. Facilitators can also assist whenever an opinion or technical aspect interferes with the process by asking questions or providing ways to create better flow. This is the part of the process that requires a higher quantity of material: coloured markers, sheets with pre-printed icons and symbols, photographs or magazines (or even some “three-dimensional raw materials” such as Lego blocks or plasticine). This part usually leads to intense debates and “P2P learning dynamics”, while constructing metaphoric explanations for the ongoing process which, once finished, should be presented to the other groups from beginning to end.

Prototyping phase

It is important to highlight that these paper-based prototypes envision a low fidelity representation of the projected final design or interface. It has been noted that if the quality of finish is too high, participants can be distracted by specific aspects of the design and, consequently, may not be as motivated to give honest, open feedback⁴⁹. On the other hand, when the representations are too lo-fi or abstract, they can lead to impractical debates, or hamper the co-creation process without adding to the desirable nuances. The facilitator’s capacity to animate or move the process in the desired direction is a key asset in these types of situations.

It should be evident by now that the preparation, moderation, and management of this set of activities is relatively complex, especially when they must be adequately adapted to the type of context and participants involved in the co-creation process. Regarding the necessary time management, in our experience it is necessary to allocate a minimum of two blocks of 3 to 4 hours each spread out over two workdays, in order to complete all steps and allow enough time at each stage for debate and answering questions satisfactorily (including enough time to make pauses for coffee, lunch or even a quick guided tour of the location where the workshop is taking place).

⁴⁹ <http://mw2014.museumsandtheweb.com/paper/from-post-its-to-processes-using-prototypes-to-find-solutions/>

Let's go over some of the low-fidelity prototypes created as a result of each pilot workshop.

“Comic saga” (from the Design theme): Children and adolescents from 8 to 12 can create their own character, determine its physical appearance, abilities, weapons, location and specific background. They can choose from a selection of Public Domain or copyleft re-usable images, a pre-existing selection of items, and drag and drop the images. Characters can then interact in different activities (collaborating, competing hunting, etc.). The character's qualities will inform its success. The app gives students the opportunity to create their own story.



“Listen to the city” (from the Social Networks theme): This is based on the following scenario: “What would happen if a tourist could upload or download historical recordings from the Internet, or choose amongst them in an interactive platform in order to construct his or her own tourist itinerary in at any given location?”. The objective of the app would be to create an audiovisual itinerary for a particular city or city area, sourced from Europeana content. The app is targeted towards the cultural tourism sector: national tourists or 3G connection-enabled travelers eager to receive more information on the site they are visiting; tour operators or tourist oriented vehicles that can offer the devices (tablets or smartphones) with an option for clients to install the application and allow online access to the content.

The app would work as a selector, aggregator, and itinerary creator based on audio content. Through the backend and on the admin side, potential audiovisual content programmers could select and geolocate the best sounds related with specific locations. The end user — the tourist — would have the opportunity to try out various types of itineraries on the go (historical, fun-oriented, somber) with a variety of content sourced from Europeana and other provider institutions related to the various objects and themes.



“VanGogh yourself” (from the Tourism theme)

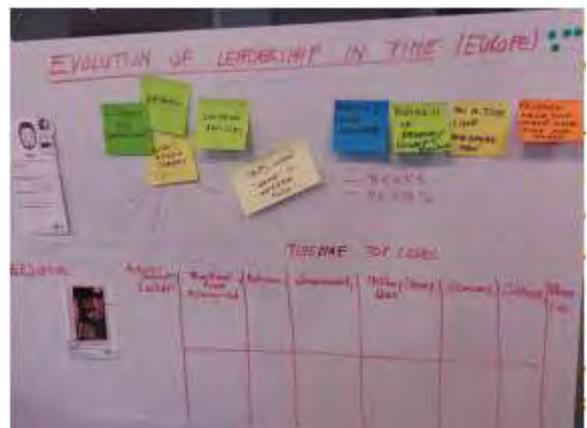
This app allows art loving tourists or museum visitors to recreate the content of a painting and share it with friends on social networks⁵⁰.

Visitors who are tired of simply looking at paintings and would like to interact with them can challenge themselves by recreating the content of paintings through new images facilitated by museums and cultural institutions. They can then share them on Pinterest and other social networks, to help them circulate and go viral.



“Evolution of leadership over time” (from the History Education theme)

This app is based on the idea of comparing historical figures (Caesar, Columbus, Churchill, Hitler, etc.) representing specific periods of mainly European history (but with the possibility of including other regions), and with additional information on religion, government, armies, etc. After entering certain fields in a timeline (such as religious influence, portraits, representation in works of fiction, news items, etc.) which can be commented on, students can take stock of the similarities and differences to finally vote on who were the best and worst leaders in history. Students can create a debate on the best form of government in certain historical periods (comparing the three best scenarios with the three worst) while also taking into account the economy, law and social conditions of each. The app can also provide a backdrop for a film or any other derivative activities.



⁵⁰ See app website here: <http://vangoyourself.com/>

“Fossil hunter” (from the Natural History theme)

Targeted to children over 12, this prototype is based on an augmented reality app that allows users to find virtual objects, especially fossils, in their original location, but hidden underground, in places underneath shopping centres, cinemas, libraries, parks, etc. (the pilot location would be Prague). Students would have to decipher why the object is sited where it is, and would be awarded real or virtual prizes, depending on the discovery.



Agile development planning and presentations

At this stage, once every group has worked extensively in order to produce low fidelity prototypes around the characters in each selected scenario, a final presentation round is held. This phase should be documented on video with one or two persons from each group sharing the details of their prototypes to the rest.



Presenting concepts at workshops in Palma (Es Baluard Museum) and The Hague (Euroclio)

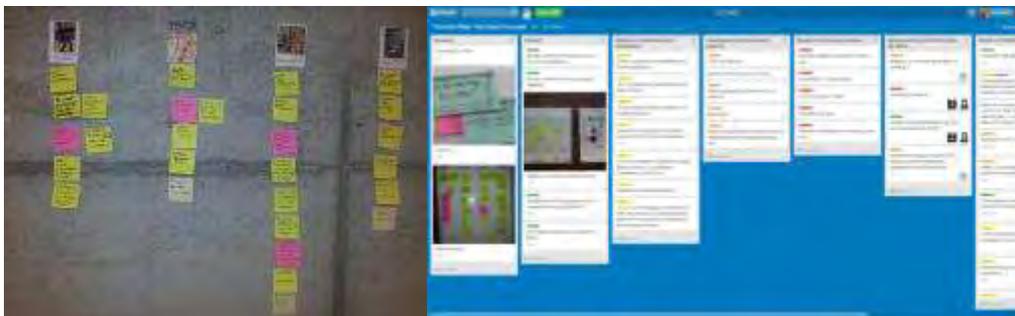
These co-created solutions provide an opportunity to continue working on the process, taking advantage of the knowledge and motivation of the participants and making a final push to determine the necessary tasks needed to fulfill the process' development. At this stage, concepts such as minimal viable product⁵¹ and Agile development can be very useful. Even if the participants or the host organisation don't have enough resources or the necessary commitment to develop the co-created product or service, it's important that both collaborate to

⁵¹ For more information: http://en.wikipedia.org/wiki/Minimum_viable_product

collectively determine what would be needed to make an alpha or beta version of the prototypes. To achieve this, participants can simply make a column on a wall or on several blackboards for each co-creation, separating the types of tasks (programming, strategy, design, content, etc.). They can also move from one blackboard to the next, adding post-its according to their abilities, knowledge and experience. Each note should describe a necessary task or process in the development of the co-created product or service as succinctly as possible and with a minimum of technical jargon. These items will inform the creation of scrum backlogs⁵² which will later be amplified, bifurcated or prioritized by a development team during the production process.

Portable blackboards

In order to do this, it is important to lead the conversation using concepts that are comprehensible for the majority of participants, such as transparency whenever proposing something or asking a question, as well as searching for concrete items to avoid generalizations. This will facilitate synergy and more natural interaction between agile design principles and the interactions described above, which are a part of design thinking⁵³.



Example of moving initial lists of tasks by sections and priority to a digital board for a Scrum process

At the risk of seeming too unstructured, the way sessions close has to be clearly and effectively open to flexibly use the true potential of a group of distinct individuals, along with a specific timeframe and set of resources. This will enable the satisfactory development of the co-created product. If there's real engagement and the necessary set of resources to develop it, the different lists of needs should help determine what is more feasible, and a new round of voting will be held to decide the most promising or interesting proposals to be developed (including alternatives documented in the prototypes, acting as additional “Plan Bs”). Investing additional

⁵² For more information: <http://en.wikipedia.org/wiki/Scrum>

⁵³ <http://mw2014.museumsandtheweb.com/paper/from-post-its-to-processes-using-prototypes-to-find-solutio/>

time applying each prototypes to a business model canvas type procedure⁵⁴ can also help in selecting the best of these.

Additionally, the aforementioned dynamics and process can lead to two other possible lines of continuity for the materialization of the collaboratively developed and created ideas. One of these possible lines involves estimating the tasks to be carried out. This can serve as an additional evaluation of the costs involved for each and, in a context of resource scarcity, can help define economic needs, to set optimal and minimum costs that can be used in the development process for a crowdfunding campaign.

The second possibility can come into play given enough time, energy and technical ability among the participants. It involves the opening of complementary dynamics, such as a hackathon-style event, where the defined requirements of co-creations with a technological character (like apps and other types of software) can be intensely developed. This is in contrast to what usually happens in normal hackathons, where emphasis is given over to the technical and technological aspects that prioritise the immediate creation of code, as opposed to design thinking or previous user-oriented reflections.

Adaptation to other contexts

Based on the practical experience of the co-creation dynamics developed for Europeana Creative, there are other contexts where Platoniq has created adaptations of the described methodology as a continual process of ongoing improvement aimed at generating creative synergy. This helps maximize feedback on certain aspects of promising ideas and, no less importantly, also helps enable the applied transfer of knowledge and practical know-how for the methodology to be applied in new contexts facilitated by other institutions and agents.



The same approach adapted to a wider space, more participants and movable canvas in Marseille (Idea Camp)

⁵⁴ For more information: http://en.wikipedia.org/wiki/Business_Model_Canvas

One example would be an adaptation of this type of workshop which was developed in collaboration with Subtopia⁵⁵ in October 2014 for the IdeaCamp open call⁵⁶, co-organised with the European Cultural Foundation and other European partners⁵⁷. In this international gathering and after the preselection of 50 ideas related to innovative civic proposals in public space, work was undertaken to follow various steps, from the creation of scenarios, to rapid prototyping and task estimation for each of the selected ideas, allowing them to opt for a subsequent R&D grant.

The most relevant aspect of these co-creation sessions, and after following the previously described patterns, was the materialization of each phase of the process in a series of mobile blackboards, acting as canvases. The existing focus in similarly themed different clusters allowed participants to initially describe each of their ideas by using the structure of user – action – complement – objective in order to have a modular impact in other participants' ideas by suggesting alternatives or improvements.



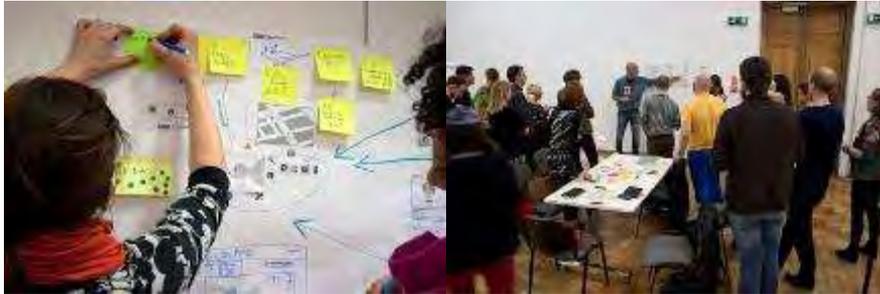
Other co-creation workshops in Cáceres (Fundecyt) and Barcelona (Disseny Hub)

As another important variant in the order of iterations, a continuous daily feedback dynamic on fixed sections of the canvas was subsequently enabled during the two days of the encounter (taking place concurrently with other sessions, such as workshops or inspirational talks). This, along with the free association of co-designed ideas fashioned during the course of the event (which resulted in new clusters of reciprocal meaning and inspiration amongst ideas), led to increased asynchronous possibilities of interactions with more people, facilitated by the scenarios, diagrams and previous feedback reflected on each “idea on wheels”, serving as an invitation to analyse them from different points of view.

⁵⁵ For more information: <http://www.subtopia.se/>

⁵⁶ For more information: <http://www.culturalfoundation.eu/idea-camp/>

⁵⁷ For more information: <http://www.culturalfoundation.eu/thematic-focus/>



Other co-creation workshops in Warsaw (Centrum Cyfrowe)

Another significant adaptation based on these co-creation methodologies in the sphere of creative industries involves certain collectives of participants involved with app design and development, as was the case in the Primer European Creativity Festival⁵⁸ or in collaboration with Fundecyt⁵⁹. The approach to these cases involved sessions of applied (or “meta”) demonstrations where iterations were adapted in the same way (based on real cases and intensive interaction), but accompanied by the facilitator’s explanations on how to carry these out, while sharing reflections on their applicability in each participants’ institution or professional field. Apart from validating their interest, this has also served to highlight the degree of maturity and opportunity which can be applied to a wide variety of contexts and typologies. It also demonstrates that the lack of knowledge of design techniques or project coordination is often not incompatible with the adoption of simple co-creation mechanisms or agile frameworks incorporating scrum and based on an initial practice with minimum and incremental results.

⁵⁸ For more information: <http://www.europeancreativityfestival.com/#workshops>

⁵⁹ For more information: <http://www.fundecyt-pctex.es/index.php?pagina=3&seccion=27&idioma=en>

Conclusions and recommendations

This paper describes and gives context for the use of co-creation mechanisms to generate new online or analogue projects – or hybrids of both. For a variety of reasons, this use of co-creation is a good fit with the resources available and the maturity of creative industries within Europe, as well as with agents and audiences qualified to come forward in the collaborative generation of value and originality. It's also valuable as a new experience in and of itself, within the framework of the new digital culture. This is not only related to a thoroughly tested co-design tradition used for decades in various disciplines (as described in the introduction), but also to analytical perspectives on the impact of cultural software and the influence of software on the current society's culture (Manovich, 2013), or how the active role of users in the generation of new experiences and products evolves through the Internet and cultural consumption.

It is an expansive and changing context, not only due to the practices described and documented by Platoniq (Senabre, 2014), but by other agents and institutions these are based on or related to, due to their theoretical bases and practices: pioneering initiatives in enabling collaboration in the context of museums such as Museum Camp⁶⁰; in applying the maker ethos⁶¹ in spaces of knowledge, like libraries⁶²; in facilitating case studies, tools and canvases for the autonomous development of projects such as NESTA's DIY Toolkit⁶³; in open methodologies for the creation of books, manuals and other written documents, like BookSprint⁶⁴; in socialising and integrating user centred design mechanisms, such as IDEO's Design Kit⁶⁵.

These approaches, normally stemming from reassigning the participative and experimental philosophy of the laboratory concept to the digital arena, and the radical socialization it implies, represent the "living lab"⁶⁶ paradigm (including, for example, those gathered in a European network⁶⁷ and also a partner of Europeana Creative), which is often transposed to online platforms facilitating resources and contact among developers. In this sense, a first recommendation already integrated in the example we're describing has been the creation of an online laboratory to encourage the reuse and appropriation of Europeana data collections

⁶⁰ For more information: <http://camp.santacruzmah.org/>

⁶¹ For more information: <http://en.wikipedia.org/wiki/Maker>

⁶² For more information: <http://makerlibrarynetwork.org/concept/>

⁶³ For more information: <http://diytoolkit.org/>

⁶⁴ For more information: <http://www.booksprints.net/>

⁶⁵ For more information: <http://www.designkit.org/>

⁶⁶ For more information: http://en.wikipedia.org/wiki/Living_lab

⁶⁷ For more information: <http://www.openlivinglabs.eu/>

and APIs. This takes place in a website designed to take the different user profiles into account, under the name of Europeana Labs⁶⁸.

At the same time, when considering the growing potential of digital content and metadata allowing access to these types of platforms, along with others such as Wikipedia, OpenGLAM⁶⁹, or CultureHack⁷⁰, it seems reasonable to favour strategies that take these into account, relying on these and other sources as assets for the creation of new digital applications (or even production materials for co-creation methodologies). This would allow for the development of new fronts in innovation and value generation in experimental ways (while expanding professional co-design through books, manuals, handwritten letters, audio archives and multimedia in general), and would include new modalities of cultural hackathons and similar gatherings exclusively focused on open data, as well as intensive wiki edition sessions or “edit-a-thons”⁷¹ in GLAM contexts.

It is also important to emphasise the time factor when planning concrete co-creation dynamics, whether at the internal level in certain institutions, or regarding the collaboration of a determined number of partners. This is done to produce truly useful results after making reasonable predictions of key factors such as necessary materials, prior or necessary knowledge, available resources for production and facilitation, etc. Additionally, and more importantly, it is crucial to anticipate as early as possible within the development process the “when and how” of specific co-design processes and their applications in order to amplify their impact and quality⁷².

Another important recommendation, in our experience and in contrast with other case studies in this field, is to try and uphold a minimum level of internal and external work regarding the motivation and expectation of participants, given that these dynamics can be sometimes be interpreted in a negative manner whenever they are not aligned with institutional or personal objectives⁷³. This is especially vital when the results or the necessity of further development can create conflict regarding perceptions of control, authorship or ownership of content and where, once again, a feeling of transparency and trust applied to the whole process can be extremely beneficial.

Regarding the end users, as explained above, it is very important to plan and take into account not only institutions that can collaborate in these types of projects in multi-disciplinary ways, but also to target participants at an individual level. This should be studied on a case-by-case basis in order to achieve the desired balance of roles, knowledge and viewpoints among programmers, visitors or users, students and investigators, professional designers, content

⁶⁸ For more information: <http://labs.europeana.eu/>

⁶⁹ For more information: <http://openglam.org/>

⁷⁰ For more information: <http://data.culturehack.org.uk/>

⁷¹ For more information: <http://en.wikipedia.org/wiki/Edit-a-thon>

⁷² <http://timreview.ca/article/310>

⁷³ <http://www.participatorymuseum.org/chapter8/>

experts, etc. The host institutions should pay heed to these targets while taking into account the basic premise of not pursuing predefined results, but instead, common production processes allowing for the appearance of new projects within their ecosystem (Sangüesa, 2014).

Finally, as an active invitation to experimentation beyond just format and contexts, with the emphasis on the virtues of shared knowledge that we have tried to highlight, we believe that it's extremely important to invest the necessary effort and resources in new tools and mechanisms to boost the results of co-creation in digital culture contexts. And, when speaking of digital culture, we must always take into account other essential recurring mechanisms such as small format or 3-D printers, Arduino sensors, tablets and mobile devices with new features, or even more potentially disruptive technologies such as drones or augmented reality goggles which represent the type of material that allows for the imagining, prototyping and cyclic testing, and sharing in this promising co-creation scenario which is simultaneously personal and institutional.

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